



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/313,764	05/18/1999	AKITO KURAMATA	990527	4289

23850 7590 04/18/2002

ARMSTRONG, WESTERMAN & HATTORI, LLP
1725 K STREET, NW.
SUITE 1000
WASHINGTON, DC 20006

EXAMINER

COLEMAN, WILLIAM D

ART UNIT PAPER NUMBER

2823

DATE MAILED: 04/18/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Advisory Action

Application No.

09/313,764

Applicant(s)

KURAMATA ET AL.

Examiner

W. David Coleman

Art Unit

2823

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED March 28, 2002 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

PERIOD FOR REPLY [check either a) or b)]

- a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.
- b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection. ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☐ A Notice of Appeal was filed on _____. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.
2. ☐ The proposed amendment(s) will not be entered because:
- (a) ☐ they raise new issues that would require further consideration and/or search (see NOTE below);
 - (b) ☐ they raise the issue of new matter (see Note below);
 - (c) ☐ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
 - (d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____

3. ☐ Applicant's reply has overcome the following rejection(s): _____.
4. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
5. ☒ The a) ☐ affidavit, b) ☐ exhibit, or c) ☒ request for reconsideration has been considered but does NOT place the application in condition for allowance because: see attachment.
6. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.
7. ☐ For purposes of Appeal, the proposed amendment(s) a) ☐ will not be entered or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: 6-13 and 18-20.

Claim(s) objected to: _____.

Claim(s) rejected: 1-4 and 21-24.Claim(s) withdrawn from consideration: 5 and 14-17.

8. ☒ The proposed drawing correction filed on August 27, 2001 is a) ☒ approved or b) ☐ disapproved by the Examiner.
9. ☐ Note the attached Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____.
10. ☐ Other: _____

DETAILED ACTION

Response to Amendment After Final or Advisory Action

1. Applicant's arguments filed March 28, 2002 have been fully considered but they are not persuasive.
2. Applicants contend that Edmond et al., U.S. Patent 6,120,600 herein known as Edmond in view of Nakamura et al. U.S. Patent 5,747,832 herein known as Nakamura fails to teach Applicants invention, disclosing the carrier concentration of the AlGa_N used for the buffer layer for reducing the interface resistance.
3. In response to Applicants contention that the combined teachings fail to disclose the claimed invention, carrier concentration of the AlGa_N used for the buffer layer for reducing the interface resistance. Applicants are directed to column 1 lines 20-60 where the importance of a low resistivity gallium nitride based semiconductor is taught. The carrier concentration that Applicants content that is not taught is in column 14, lines 2-3 of Nakamura.
4. Applicants indicate that the Examiner changes from FIG. 1 to that of FIG. 2 of Nakamura in disclosing the buffer layer.
5. In response to Applicants contentions that FIGS. 1 and 2 of the references have been switched, Applicants are reminded that it is the reference as a whole that is applied towards Applicants claimed invention. The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

Art Unit: 2823

6. Applicants contend that Powell et al., U.S. Patent 6,165,874 fails to provide the teachings or suggestions which the primary references lack.

7. In response to Applicants contention that Powell fails to provide the teachings or suggestions in which the primary references lack, Applicants are required to distinctly point out the claimed features.

Status of the pending claims After Final Rejection

8. Claims 1, 2, 3 and 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edmond et al., U.S. Patent , 6120,600 in view of Nakamura et al., U.S. Patent 5,747,832.

9. Claims 4 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edmond et al., U.S. Patent , 6120,600 in view of Nakamura et al., U.S. Patent 5,747,832 as applied to claims 1-3 and 21-24 above and in further view of Powell et al., U.S. Patent 6,165,874.

10. Claims 6-13 and 18-20 allowed.

11. Claims 5 and 14-17 are withdrawn from further consideration.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to W. David Coleman whose telephone number is 703-305-0004.

The examiner can normally be reached on 9:00 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael M. Fahmy can be reached on 703-308-4918. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7721 for After Final communications.

Application/Control Number: 09/313,764

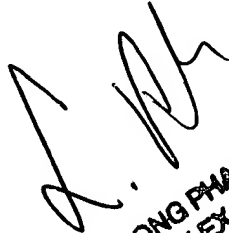
Page 4

Art Unit: 2823

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

WDC

April 9, 2002


LONG PHAM
PRIMARY EXAMINER